CLAIMS

1. A communications device, comprising:

a tunable oscillator configured to produce a reference signal;

a receiver configured to recover an information signal from a carrier using the reference signal; and

a processor configured to detect a frequency error in the information signal, and periodically tune the oscillator to reduce the frequency error.

2. The communications device of claim 1 wherein the processor further comprises a rotator configured to compensate for the frequency error concurrently with the periodic tuning of the oscillator.

3. The communications device of claim 2 wherein the processor is further configured to operate in a acquisition state and a synchronized state, the processor being further configured to acquire the carrier without tuning the oscillator during the acquisition state, and periodically tune the oscillator to reduce the frequency error and use the rotator to compensate for the frequency error during the synchronized state.

4. The communications device of claim 1 wherein the tunable oscillator is further configured to produce a second reference signal, the communications device further comprising a second receiver configured to recover a second information signal from a second carrier using the second reference signal, the processor being further configured to disable the second receiver during the tuning of the oscillator.

5. The communications device of claim 4 wherein the processor is further configured to provide to the second receiver a signal relating to the frequency error, and wherein the second receiver is further configured to use the signal relating to the frequency error to acquire the second carrier following the tuning of the oscillator.

6. The communications device of claim 4 wherein the second receiver comprises a Global Positioning Satellite receiver.

7. The communications device of claim 6 wherein the processor comprises a wide band code division multiple access processor.

8. The communications device of claim 1 wherein the processor is further configured to enable the tuning of the oscillator if the frequency error crosses a first threshold, and once enabled, continue tuning the oscillator until the frequency error is reduced below a second threshold.

9. The communications device of claim 8 wherein the first threshold is greater than the second threshold.

10. The communications device of claim 8 wherein the processor is further configured to interface to a particular communications network, and wherein the first and second thresholds are a function of the particular communications network for which the processor is configured to interface with.

11. The communications device of claim 8 wherein the tunable oscillator is further configured to produce a second reference signal, the communications device further comprising a second receiver configured to recover a second information signal from a second carrier using the second reference signal, the second receiver being configured to operate in an active state and an idle state, and wherein the first and second thresholds are a function of the state of the second receiver.

12. The communications device of claim 11 wherein the second receiver comprises a Global Positioning Satellite receiver, the Global Positioning Satellite receiver being in the active state when computing a navigational solution.

13. A communications device, comprising:

a tunable oscillator configured to produce a reference signal;

a receiver configured to recover an information signal from a carrier using the reference signal; and

a processor configured to detect a frequency error in the information signal, and tune the oscillator if the frequency error crosses a threshold.

14. The communications device of claim 13 wherein the processor is further configured to tune the oscillator once the frequency error crosses the threshold until the frequency error is reduced below a second threshold.

15. The communications device of claim 14 wherein the threshold is greater than the second threshold.

16. The communications device of claim 13 wherein the processor is further configured to interface to a particular communications network, and wherein the threshold is a function of the particular communications network for which the processor is configured to interface with.

17. The communications device of claim 13 wherein the tunable oscillator is further configured to produce a second reference signal, the communications device further comprising a second receiver configured to recover a second information signal from a second carrier using the second reference signal, the processor being further configured to disable the second receiver during the tuning of the oscillator.

18. The communications device of claim 17 wherein the processor is further configured to provide to the second receiver a signal relating to the frequency error, and wherein the second receiver is further configured to use the signal relating to the frequency error to acquire the second carrier following the tuning of the oscillator.

19. The communications device of claim 17 wherein the second receiver comprises a Global Positioning Satellite receiver.

20. The communications device of claim 19 wherein the processor comprises a wide band code division multiple access processor.

21. The communications device of claim 17 wherein the second receiver is further configured to operate in an active state and an idle state, and wherein the threshold is a function of the state of the second receiver.

22. The communications device of claim 21 wherein the second receiver comprises a Global Positioning Satellite receiver, the Global Positioning Satellite receiver being in the active state when computing a navigational solution.

23. A method of communications, comprising:
recovering an information signal from a carrier using a reference signal;
detecting a frequency error in the information signal; and
periodically tuning the reference signal to reduce the frequency error.

24. The method of claim 23 further comprising rotating the information signal to compensate for the frequency error concurrently with the periodic tuning of the reference signal.

25. The method of claim 24 further comprising acquiring the carrier without tuning the reference signal, and wherein the periodic tuning of the reference signal together with the rotation of the information signal is performed following the carrier acquisition.

26. The method of claim 23 further comprising disabling recovery of a second information signal from a second carrier using a second reference signal during the tuning of the reference signal, the reference signal and the second reference signal being generated from a common oscillator.

27. The method of claim 26 further comprising generating a signal relating to the frequency error, and using the signal to acquire the second carrier following the tuning of the reference signal.

28. The method of claim 26 wherein the second carrier with the second information signal is from a Global Positioning Satellite system.

29. The method of claim 28 wherein the carrier with the information signal comprises a wide band code division multiple access network.

30. The method of claim 23 wherein the periodic tuning of the reference signal comprises enabling the tuning of the reference signal when the frequency error crosses a first threshold, and once enabled, continuing to tune the reference signal until the frequency error is reduced below a second threshold.

31. The method of claim 30 wherein the first threshold is greater than the second threshold.

32. The method of claim 30 further comprising receiving the carrier with the information signal from a particular communications network, and wherein the first and second thresholds are a function of the particular communications network from which the carrier is received.

33. The method of claim 30 further comprising periodically computing a navigational solution from a second information signal from a Global Positioning Satellite system, the second information signal being recovered from a second carrier using a second reference signal, and the reference signal and the second reference signal being generated from a common oscillator, and wherein the first and second thresholds are a function of whether the computational solution is being computed.

34. A communications device, comprising:

means for producing a reference signal;

means for recovering an information signal from a carrier using the reference signal;

means for detecting a frequency error in the information signal; and

means for periodically tuning the reference signal to reduce the frequency error.

35. The communications device of claim 34 wherein the means for periodically tuning the reference signal is configured to enable the tuning of the

reference signal if the frequency error crosses a first threshold, and once enabled, continue tuning the reference signal until the frequency error is reduced below a second threshold.

36. The communications device of claim 34 further comprising means for producing a second reference signal, means for recovering a second information signal from a second carrier using the second reference signal, and means for disabling the recovery of the second information signal during the tuning of the reference signal, the means for generating the reference signal and the means for generating the second reference signal each comprising a common oscillator.